

Serial No. 09/987,248  
Atty. Doc. No. 2734.0442-02000

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*ckntd*

a pressing unit engaging said pressing blanket adapted to urge said nascent web for said absorbent paper sheet on said foraminous endless fabric into engagement with said transfer cylinder thereby forming a nip between said foraminous endless fabric and said transfer cylinder, wherein no previous member is interposed between said transfer cylinder and said foraminous endless fabric, said pressing unit being configured to create a peak engagement pressure of at least about 2000 kN/m<sup>2</sup>, and wherein said pressing unit is configured to impose an asymmetrical pressure distribution upon said nascent web.

102. The apparatus of claims 100 or 101, wherein said asymmetrical pressure distribution is skewed such that the pressure declines from a peak pressure to a value of 20% of said peak pressure over a nip length which is no more than about half of the nip length over which it rose to said peak pressure from 20% of said peak pressure.~

#### REMARKS

Applicants would like to thank Examiner Fortuna for the courtesies that he extended to the undersigned during the recent interview, and for indicating the allowability of the pending claims. Should the Examiner believe any outstanding issues continue to remain, he is respectfully requested to contact the undersigned at (404) 653-6456.

In the Office Action dated July 31, 2002, the Examiner rejected claims 85-87 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the

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invention. In particular, the Examiner asserted that the claims were indefinite because the claims did not define the nip in terms of pressure and the Examiner suggested amending the claims to recite "wherein the pressure at the nip . . ." Applicants' have amended the claims as suggested by the Examiner and submit that the claims are now in condition for allowance. No new matter has been added by these amendments.

The Examiner also rejected claims 52-54, 58-74, and 78-86 under 35 U.S.C. § 103(a) as being unpatentable over *Phan et al.* (U.S. Patent No. 5,804,036) in view of applicants' admission. The Examiner further rejected claims 52-54, 58-74, and 78-86 under 35 U.S.C. § 103(a) as being unpatentable over *Sobota* (U.S. Patent No. 3,981,084) in view of applicants' admission.

The Examiner objected to claims 55-57 and 75-77 as being dependent upon a rejected base claim, but indicated that the claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The Examiner noted that the prior art fails to disclose or suggest the pressing unit recited in the independent claims, wherein the pressing unit has at least one hydraulic engagement member. As the Examiner suggested, these claims are now presented in independent form and are in condition for allowance. In particular, the limitation of claim 55 has been combined with the limitations of independent claim 52 and separately with the limitations of claim 53, and are now new claims 88 and 89.

Claims 56 and 57 are now presented as claims 90 and 91 and depend at least from claims 88 and 89. The limitation of claim 75 has been combined with the limitations of independent claim 72 and separately with the limitations of claim 73, and are now new claims 92 and 93. Claims 76 and 77 are now presented as claims 94 and 95 and

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depend at least from claims 88 and 89. No new matter has been added by these amendments, and Applicants' respectfully submit that the claims are in condition for allowance.

Regarding the § 103(a) rejections, according to the Examiner, *Phan et al.* teaches a device for making paper in which a web is formed, transferred to a transferring fabric, and then passed through a nip between a transferring roll, Yankee dryer, or a vacuum roll. The Examiner admits that *Phan et al.* fails to explicitly teach the claimed peak and line load pressures, but argues that these pressures are inherent because vacuum rolls are usually loaded within these ranges. As evidence for this argument, the Examiner points to the present application which states that: "Suction pressure rolls loaded to a Yankee dryer are routinely run at line loads less than 100 kN/m and at peak pressures of less than 4500 kN/m<sup>2</sup>." In addition, the Examiner admits that *Phan et al.* fails to disclose blankets having the porosity recited in the claims, but argues that applicants admit that the recited blankets are conventional and, therefore, it would have been obvious to use the blankets in combination with the device disclosed in *Phan et al.* The rejection over *Sobota* is identical to that over *Phan et al.*

The Examiner fails to appreciate, however, that the prior statement is directed to suction pressure rolls. As stated at page 7 of the specification, "Pressing unit" as defined in accordance with the present invention includes any press members allowing deformation of the pressing blanket/impression fabric and/or felt/web sandwich to result in asymmetric pressure profiles. . . . *Pressing units according to the present invention do not include suction pressure rolls since they lead to symmetrical pressure distributions frequently mathematically described by sine or haversine functions.*"

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In addition to the above argument, the Applicants have herein amended independent claims 52, 53, 72, and 73 to recite that "said pressing unit does not include suction pressure rolls." The amendment to the claim is not further limiting as it merely incorporates the definition of "pressing unit" as found in the specification into the claim. Accordingly, the Applicants' submit that claims 52-87 are allowable over *Phan et al.*, further in view of Applicants' admission.

New claims 97-102 are substantially similar to originally presented claims 52-54 and 72-74, except that the limitation "wherein said pressing unit is configured to impose an asymmetrical pressure distribution upon said nascent web" has been added to the claims. Support for this limitation is found at least at page 7, lines 6-9. Neither of the *Phan et al.* or *Sobota* references discloses the claimed apparatus for forming an absorbent paper sheet "wherein said pressing unit is configured to impose an asymmetrical pressure distribution upon said nascent web" as recited in claims 97-102. Accordingly, Applicants respectfully submit that these claims are allowable.

The Applicants respectfully request that this Amendment After Final be entered by the Examiner, placing claims 52-102 in condition for allowance. The Applicants submit that the proposed amendments do not raise new issues or necessitate the undertaking of any additional search of the art by the Examiner, since all of the elements and their relationships claimed were either earlier claimed or inherent in the claims as examined. Therefore, this Amendment should allow for immediate action by the Examiner.

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Finally, the Applicants submit that the entry of the Amendment would place the application in better form for appeal, should the Examiner dispute the patentability of the pending claims.

In view of the foregoing amendments and remarks, the Applicants respectfully requests the reconsideration and reexamination of this application and the timely allowance of the pending claims.

If there are any fees due in connection with the filing of this preliminary amendment, please charge the fees to our Deposit Account No. 06-0916.

Respectfully submitted,

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Dated: January 30, 2003

By: 

Barry B. Biddle  
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APPENDIX

IN THE CLAIMS:

Please amend claims 52, 53, 72, 73, and 85-87 as follows:

52. (Amended) An apparatus for forming an absorbent paper sheet product comprising:

a moving foraminous endless fabric;

means for depositing a nascent web for said absorbent paper sheet on said foraminous endless fabric;

a moving endless pressing blanket for pressing said absorbent paper sheet on said foraminous endless fabric, said moving endless pressing blanket having a void volume of less than about 1500 cm<sup>3</sup>/m<sup>2</sup>;

a transfer cylinder; and

a pressing unit engaging said pressing blanket adapted to urge said nascent web for said absorbent paper sheet on said foraminous endless fabric into engagement with said transfer cylinder thereby forming a nip between said foraminous endless fabric and said transfer cylinder, wherein no previous member is interposed between said transfer cylinder and said foraminous endless fabric, said pressing unit being configured to create a peak engagement pressure of at least about 2000 kN/m<sup>2</sup> at an overall line load of less than about 240 kN/m, and wherein said pressing unit does not include suction pressure rolls.

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53. (Amended) An apparatus for forming an absorbent paper sheet product comprising:

a moving foraminous endless fabric;

means for depositing a nascent web for said absorbent paper sheet on said foraminous endless fabric;

a moving endless pressing blanket for pressing said absorbent paper sheet on said foraminous endless fabric, said moving endless pressing blanket having a void volume of less than about  $1500 \text{ cm}^3/\text{m}^2$ ;

a transfer cylinder; and

a pressing unit engaging said pressing blanket adapted to urge said nascent web for said absorbent paper sheet on said foraminous endless fabric into engagement with said transfer cylinder thereby forming a nip between said foraminous endless fabric and said transfer cylinder, wherein no previous member is interposed between said transfer cylinder and said foraminous endless fabric, said pressing unit being configured to create a peak engagement pressure of at least about  $2000 \text{ kN/m}^2$ , and wherein said pressing unit does not include suction pressure rolls.

72. (Amended) An apparatus for forming an absorbent paper sheet product comprising:

a moving foraminous endless fabric;

means for depositing a nascent web for said absorbent paper sheet on said foraminous endless fabric;

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a moving endless pressing blanket for pressing said absorbent paper sheet on said foraminous endless fabric, said moving endless pressing blanket having a void volume of less than about  $1500 \text{ cm}^3/\text{m}^2$ ;

a backing roll; and

a pressing unit engaging said pressing blanket adapted to urge said nascent web for said absorbent paper sheet on said foraminous endless fabric into engagement with said transfer cylinder thereby forming a nip between said foraminous endless fabric and said transfer cylinder, wherein no previous member is interposed between said transfer cylinder and said foraminous endless fabric, said pressing unit being configured to create a peak engagement pressure of at least about  $2000 \text{ kN/m}^2$  at an overall line load of less than about  $240 \text{ kN/m}$ , and wherein said pressing unit does not include suction pressure rolls.

73. (Amended) An apparatus for forming an absorbent paper sheet product comprising:

a moving foraminous endless fabric;

means for depositing a nascent web for said absorbent paper sheet on said foraminous endless fabric;

a moving endless pressing blanket for pressing said absorbent paper sheet on said foraminous endless fabric, said moving endless pressing blanket having a void volume of less than about  $1500 \text{ cm}^3/\text{m}^2$ ;

a backing roll; and

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a pressing unit engaging said pressing blanket adapted to urge said nascent web for said absorbent paper sheet on said foraminous endless fabric into engagement with said transfer cylinder thereby forming a nip between said foraminous endless fabric and said transfer cylinder, wherein no previous member is interposed between said transfer cylinder and said foraminous endless fabric, said pressing unit being configured to create a peak engagement pressure of at least about 2000 kN/m<sup>2</sup>, and wherein said pressing unit does not include suction pressure rolls.

85. The apparatus of claims 72 or 73, wherein the pressure at said nip is at least about 2500 kN/m<sup>2</sup>.

86. The apparatus of claims 72 or 73, wherein the pressure at said nip is at least about 3000 kN/m<sup>2</sup>.

87. The apparatus of claims 72 or 73, wherein the pressure at said nip is at least about 3150 kN/m<sup>2</sup>.

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